

## PRETTY INSECTS COST MILLIONS

Butterfly Does Immense Damage to Alfalfa Fields of Different Western States.

### STRIP LEAVES FROM PLANTS

Chickens, Turkeys and Many Birds Destroy Worms During Feeding Stage—Bollworm Devours Both Worms and Pupae.

(Prepared by the United States Department of Agriculture.)

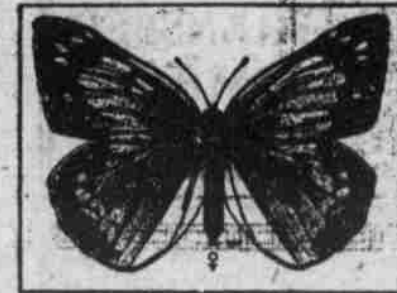
"What a beautiful creature!" exclaimed a farm visitor, indicating a gorgeous yellow butterfly which had alighted upon a nearby alfalfa plant. He raised and lowered his black-edged wings in slow, graceful palpitations. The insect appeared to be the very spirit of the hot summer day; his colors were the colors and shades of brilliant sunshine and the deepest, blackest shadow, set in a delightful contrast; and its will was the will of the breeze that stirred the broad alfalfa meadows beyond the garden, where host and guest had retired to enjoy the shade.

Appreciation Dampened. "Beautiful—yes," responded the rancher, "but my appreciation is somewhat dampened by the knowledge that the pretty creature costs the alfalfa growers of Arizona and California about \$1,000,000 a year. What this butterfly costs in other states—Kansas, Oklahoma, Texas and others—I'm unable to say, but it must be an immense sum. Rather a high price to pay for beauty, isn't it? We could endow a good many art galleries with that sum; we could beautify our schools and hang Rembrandts in every classroom, if there were enough of them to go around. We could bring thousands of the city children out into the fresh air and sunshine, if we had the price of that yellow fellow, and his mate.

"How does he accomplish all this?" asked the interested listener. "It's a harsh indictment to lay against a creature so apparently lacking in malice. Tell me about him; where does he come from; how does he live, and what are his peculiarities?"

The rancher rose, stepped through the hedge, and came back with a handful of alfalfa, freshly pulled from the nearby field.

"You can find out all you wish to know, from Farmers' Bulletin 1004, just published by the United States



Alfalfa Caterpillar—Female in Adult or Butterfly Stage.

department of agriculture, but I think we have his life history and a catalogue of his crimes in this bunch of herbage.

"Here's the egg," he continued, indicating a tiny, brownish, elongated object upon the upper side of an alfalfa leaf. "That's the first stage, and is interesting only because the female butterfly lays from 200 to 500 of them in her lifetime. It has been estimated that if all the eggs of a single female butterfly hatched—and there were no losses in the progeny, or in their eggs or young—this first

butterfly would be grandmother to 3,000,000,000 insects before the end of the summer.

"Fortunately for us an insect parasite destroys a good many of the eggs. Here's a ruined egg—it's black, you see, instead of brown; the parasite has been there.

Million-Dollar Damage.

"Next is the larva, or worm stage; and it is in this form that the alfalfa caterpillar does the million-dollar damage. A number of these worms will strip most of the leaves from a crop in a very short time. Here is a small worm, evidently just hatched, and here on this bud is a larger one. Note the green color of its body and the white stripe down each side. He is nearly an inch long and has made



A Parasite of the Alfalfa Caterpillar.

his growth by gorging upon the tender leaves and terminal buds of my alfalfa. Wherever there is an unusually large number of these worms, they will eat the stems, too, but their favorite food is the tender portion of the plant.

"While in this stage, the larva is victim of many conditions and is preyed upon by many creatures. A fly lays its eggs upon the worm. These hatch into grubs which penetrate and kill their host.

"Moisture and a hot, heavy atmosphere will induce the spread of a disease among the worms. See, here are worms just afflicted with the disease—note the lighter color of their skins and their sluggish movements. In a few hours they'll die and decompose into a black decaying mass. You can understand why alfalfa hay loses its feeding value if it is heavily impregnated with these corpses—the animals don't like the flavor.

"You've heard of the bollworm—so injurious to cotton and cotton? He comes to our aid in the fight against the alfalfa caterpillar, and, by one of those queer natural compensations, does us a favor by devouring both worms and pupae. Odd, isn't it?"

Lay Eggs All Summer.

"Unless the worm is destroyed, the butterfly you have admired emerges from the pupa in a few days and begins to lay eggs to establish a new cycle. This goes on all summer.

"Control is accomplished by cutting alfalfa close and clean. We clear out our fence corners and ditches, and cooperate with our neighbors in clearing their land. This leaves no shelter for the caterpillar to live in from one alfalfa crop to the next, and the few which do survive find food mighty scarce, and many perish of starvation. "Disking with a harrow over the meadows after a crop has been moved destroys many of the insects in the egg, worm or pupa stage. Besides killing the insects, which are preparing to ravage the next crop, the disking process, as every one knows, is a mighty good thing for the alfalfa.

"We also use a brush drag well weighted and run it over the alfalfa meadows after the disking is done. The drag gets into the hollows and crevices where the harrow has not touched and crushes the insect in whatever stage it finds him. Even if the first cut has been ruined by the pest, these methods of irrigation and cultivation will insure the reduction of the caterpillar in time to save the next cutting from his attacks.

"These methods are recommended by the department of agriculture, and we hope to prevent most of the annual loss caused by the activities of yonder butterfly."

### SPLENDID GARDEN RESULTS

Attractive Place Where All Space is Devoted to Cultivated Crops During Entire Season.

It is simply wonderful what a common farm garden of rich soil will grow in one season if all of the soil is kept busy all the time. Where all the space is run to cultivated crops through the growing season the garden is an attractive place, and no part of it becomes hard and baked in dry weather, as where patches are neglected after the first short crops have been harvested.

Sweet Potatoes.

The value of sweet potatoes for hay forage is in dispute. The roots alone are scarcely a maintenance ration, but when combined with a liberal grain ration apparently give good returns.

Increase Wheat Yields.

Wheat yields can be increased greatly by better seedbed preparation, especially by deep plowing early in the season.

## The KITCHEN CABINET

If we trod the steps of heaven, if we struck the stars in flames, if we wrapped the globe intensely with one hot electric breath, there but power would be our foe, no new spirit power compelling. And in life we were not greater men, nor bolder men in death.

### SEASONABLE GOOD THINGS.

Soup is reasonable the year round in any climate. The following will be found easy to prepare.

**Royal Soup.**—Boil one cupful of bread crumbs in one-half cupful of milk. Add the yolks of three hard-cooked eggs, rubbed through a sieve, and the breast of a stewed chicken, also rubbed through a sieve; add three and one-half cupfuls of stock, highly seasoned; one and one-half cupfuls of scalded milk, and two and one-half tablespoonfuls each of flour and butter cooked together. Season with salt and pepper.

**Prepared Beef Flank.**—Wipe, remove superfluous fat and roll a flank of beef. Put into a kettle cover with boiling water and add one tablespoonful of salt, one-half teaspoonful of peppercorns, a small piece of bay leaf and the bone of a shank of veal. Cook slowly until the meat is very tender. There should be very little liquor in the kettle when the meat is done. Arrange the meat in a deep pan, pour over the liquor, cover and press with a heavy weight. Serve cold.

**Chicken à la Stanley.**—Melt one-fourth of a cupful of butter, add one large onion thinly sliced and two broilers cut in pieces for serving. Cover and cook slowly for ten minutes, then add one cupful of chicken stock and cook until the meat is tender. Remove the chickens, rub the stock and onions through a sieve and add one and one-half tablespoonfuls each of butter and flour cooked together. Add cream to make the sauce of the right consistency. Season with salt and pepper. Arrange the chicken on a serving dish, pour around the sauce, and garnish the dish with sliced bananas dipped in flour and sautéed in butter.

**Boiled Dressing.**—To one cupful of beaten eggs, a mixture of white and yolk, add an equal quantity of mild vinegar. Cook over a water bath thick. Season when ready to use. Will keep for weeks in a jar well sealed and placed in a cool place.

If we have whispered truth, whisper no longer. Speak as the trumpet does, sterner and stronger.

—John D. Whittier.

### SUMMER MEATS.

Chicken, veal, sweetbreads and lamb are the summer meats most commonly liked and served.

**Broiled Chicken.**—Clean a tender chicken and split it down the back. Break the joints, take out the breast bone, wipe clean, sprinkle with salt and pepper and rub with soft butter. Broil and serve with melted butter.

**Breaded Veal Cutlet.**—Have the cutlets less than an inch thick; parboil and drain, then cool. Season with salt and pepper, dip in beaten egg and crumbs and fry until brown. Serve with tomato sauce or with a border of green peas.

**Chicken Galloche.**—Cut into dice two medium sized raw potatoes. Put into a fryingpan two tablespoonfuls of olive oil and when hot add the potato dice. Stir to keep from burning and cook five minutes. Then add a dash of paprika, a cupful of boiling water, a crushed bean of garlic, a cupful of cooked chicken chopped fine or a can of boned chicken; salt to taste. Cover and cook until the potatoes are done, stirring frequently.

Mayonnaise dressing, using olive oil, is the salad par excellence, but a tasty substitute can be prepared from corn oil, using the same method of mixing.

The secret of a good mayonnaise is freshness of the egg and well-chilled ingredients and utensils. Drop a fresh egg yolk into a well-chilled bowl placed in a pan of ice water; add a half teaspoonful of salt, a teaspoonful of powdered sugar, a pinch of mustard, a dash of cayenne and a tablespoonful of lemon juice. Beat well before adding any oil, then but a few drops at a time, beating well between each addition. Thin the mixture with vinegar or lemon juice, adding more oil until three-quarters of a cupful has been used. Mayonnaise to be good should be thick and creamy. When serving it in the salad it may be thinned with cream.

—Nellie Maxwell

## SUNDAY SCHOOL LESSON

By REV. P. E. FITZGERALD, D. D., Teacher of English Bible in the Moody Bible Institute of Chicago. (Copyright, 1920, Western Newspaper Union.)

### LESSON FOR AUGUST 1

DAVID BRINGS THE ARK TO JERUSALEM.

LESSON TEXT—1<sup>st</sup> Sam. vii. 1-17.

GOLDEN TEXT—Enter into his gates with thanksgiving, and into his courts with praise. Ps. 100.

ADDITIONAL MATERIAL—Ex. 25:18; II Sam. 6:5-6; Heb. 9:2-10.

PRIMARY TOPIC—Thanking God.

JUNIOR TOPIC—The Ark of God.

INTERMEDIATE AND SENIOR TOPIC—What the Ark Meant to Israel.

YOUNG PEOPLE AND ADULT TOPIC—Making Religion Central.

The ark was a symbol of the presence of God in Israel. It represented God's throne, the place from which he communicated his will to the people through the priest (Ex. 25:22; Psalms 80:1).

I. David's Unsuccessful Attempt to Bring Up the Ark (vv. 1-5).

This is an example of a wrong way of doing a right thing. That the ark of the Lord of Hosts, the symbol of God's presence, should be brought to the very center of the nation's life was a decision worthy of all praise. It surely met God's approval. David gathered together the representative men of the nation in order that the movement might be a national one. That David was sincere in this measure cannot be doubted; but he was hasty and inconsiderate. God had expressly decreed that the Kohathites should bear the ark upon their shoulders (Num. 4:15; 1<sup>st</sup> Chr. 15:2).

For them to place it even upon a new cart was a positive violation of God's commandment. Though David was sincere, his sincerity did not atone for disobedience to God's Word. The dictum that it matters little what you do, just so you are honest and sincere, is one of the Devil's blackest lies. It mattered much in this case, and always does. David cannot be excused on the ground of ignorance, because he had the opportunity to know. God cannot be blamed for man's ignorance when he has given him the law and the ability to understand it.

II. God Vindicates His Law and Humbles the People (vv. 6-17).

The people were very joyful as they moved on toward Jerusalem with the ark, but when they reached a stop to their brilliant voices and music. At some rough place in the road the oxen stumbled and Uzzah, anxious for the precious freight on his cart, reached forth his hand to steady it. This resulted in his being stricken with death. Ignorance does not make a man immune from the death which is in the touch of the heavily charged electric wire; neither does it in the case of the violation of God's laws. Even those who were designated by the Lord to carry the ark were not allowed to touch it with their hands. Since the ark was God's dwelling place among men, they needed to know that he was holy. God's judgment was severe, but not more so than they deserved. This awful visitation of just judgment struck terror for David. Well it might, for he was in the path of disobedience. The Lord's presence has no terror for those who obey his word.

III. The Ark of God in the House of Obed-Edom (vv. 10-12).

The presence of Jehovah always brings blessings. The homes where God is welcomed are always blessed. Obed-Edom was not better personally than Uzzah and David, but he openly received the Lord and properly related himself to him. What had been death and dread to others was life and blessing to him.

IV. The Ark Brought to Jerusalem With Great Joy (vv. 13-19).

1. Sacrifices offered after going six paces (v. 13). David made the start and when convinced of God's approval he made offerings. These were both burnt and peace offerings, typifying the self-dedication of the offerers and their thanksgiving (I Chron. 16:1).

2. David's great joy (vv. 14, 15). The people joined him with great shouting and with the sound of the trumpet.

3. Michal's criticism (v. 16). Even though David went to excess in his expression of joy, it was wrong in her to criticize, for God seems to have sanctioned David's rebuke of her (v. 23).

4. The grand celebration (vv. 17-19). As a token of his gratitude to God, David generously treated the people.

5. The King of glory, the Lord Jesus, Christ coming (Psalms 24:7-10).

This was not the psalm composed by David for the occasion of bringing up the ark; that was Psalm 106 (see I Chron. 16). It is strange that such a suggestion should have been made. The Twenty-fourth Psalm pictures Christ as the coming and triumphant King. At that time the gates shall open to him and the King of glory shall come in.

## DO ALL MY HOUSEWORK

Before I took Lydia E. Pinkham's Vegetable Compound I could hardly stand, says Mrs. Kwarcinski.

Chicago, Ill.—"I suffered with displacement and irregularities and I did not know what to do. My mother advised me to take Lydia E. Pinkham's Vegetable Compound and use the B. native Wash so I took her advice and used these remedies and cured myself. I feel fine and do all my housework which I could not do before, as I could hardly stand up and I have three healthy children. You can use this letter if you wish, for your remedy is certainly wonderful for sick, run down women."

Mrs. A. KWARCINSKI, 3627 W. Oakdale Ave., Chicago, Ill.

For forty years Lydia E. Pinkham's Vegetable Compound has been making women strong and well, relieving backache, nervousness, ulceration, and inflammation, weakness, displacement, irregularities and periodic pains. It has also proved invaluable in preparing for childbirth and the change of life.

Women who suffer are invited to write for free and helpful advice to Lydia E. Pinkham Medicine Co. (confidential), Lynn, Mass. It is free and always helpful.

Sing 25c, Ointment 25c and 50c, Talcum 25c.

Thousands of Happy Housewives in Western Canada

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—

are helping their husbands to prosper—